28.The unification process of databases of categories at first stage

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Probabilidad Imposible: The unification process of databases of categories at first stage

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The unification of all databases of categories from all Specific Artificial Intelligences for Artificial Research by Application is going to have, as a result, the creation of the unified database of categories, which is going to have at least two different functions:

- To be the first stage of a database for the Unified Application, whose replication processes later are going to be able to classify any object from the real world according to its measurements with its corresponding category within the database, and whose auto-replication stage consists of the addition to the database of categories all those new categories found out, as long as the Unified Application can find objects whose samples of measurements not correspond with any category within the unified database of categories, so these samples of this objects are going to be included within the unified database of categories as new categories, to be added as well to the global matrix as factors as options.

- To be the database where particular applications (Particular Applications for Particular Deduction Programs within the Artificial Research by Deduction in the Global Artificial Intelligence) can choose at any time any category, from the unified database of categories, that for any reason could be helpful to make decisions on their particular thing or being. As long as the particular thing or being changes (in its own structure, over time or space), the categories to take from the unified database of categories are different. The categories taken from the unified database of categories by the particular application are going to be added to its particular database of categories, which is going to be a particular liquid database of categories, owing to at the least change in its particular thing or being, the categories within the particular database are going to change, discarding all those factors not necessary any more, or choosing other ones to add to the particular database of categories due to these changes.

While the unified database of categories is constant and constantly renewed by the addition of new categories from the Unified Application itself of any other particular application, the particular database of categories of any particular application is liquid, because of the changes that are going to experiment according to the changes in its particular thing or being.

The relation between the Unified Application and the particular applications is like the relation between the particular programs and the Artificial Research by Deduction in the Global Artificial Intelligence.

The Unified Application is going to have multiple advantages for those agencies or institutions specialised in scientific research in a wide range of sciences, disciplines, or activities, owing to the unified database of categories, that one in which the Unified Application works directly, is going to be like a modern encyclopaedia: all possible knowledge from all possible category in all possible scientific taxonomy or classification is going to be included in the database of categories.

At the working level, the main difference between by Application and by Deduction is the fact that while by Deduction works on a matrix whose factors have spatial limits, by Application is mobile as any Application, the Unified or the particulars, works on any robotic device in any place without pre-defined spatial limits, across the space. While the first global matrix to be created maybe is going to have very tiny spatial limits, like a nation or a continent, the process of growing up to the level to work at a planetary level, and beyond our planet, across the universe, is going to be slowly along the process of standardization goes on. However, from the outset, if any Specific Artificial Intelligence for Artificial Research by Application is downloaded in any robotic device in any place, on Earth or beyond, on any other planet or exoplanet, by Application is possible to work anywhere.

But at the database level, the main difference between by Application and by Deduction is the fact that while the database by Deduction is a matrix which consists of empirical factors whose files are going to be filled through the measurements taken by robotic devices, so in fact, it is empirical knowledge, the database of by Application consists of a database of categories, what it is a more encyclopaedic knowledge. A database of categories is itself a group of concepts, not empirical factors to be measured empirically.

In fact, until now, I have explained how a rational hypothesis by Deduction convertible into factors as options in a matrix is convertible as well into categories in a database of categories by Deduction. This explanation is given in those posts about the collaboration between by Application and by Deduction, given a full review about this matter in the post "*Collaboration in the third stage between the Artificial Research by Application and the Artificial Research by Deduction*".

But a new possibility is the possible addition of rational hypotheses **made by deduction working as factors as subjects, as they are** measured **by** direct punctuations**, being rational relations between a combination of factors to include in a database of categories as a range of discrete categories.**

A good example of a rational hypothesis (working as a factor as a subject, and their transformation as well into factors as options, so convertible into a range of discrete categories in a database) is gravity or energy, or any other relation between factors whose flow of direct punctuations **could be transformed into discrete categories.**

The existence of gravity is no other thing but a rational hypothesis based on the mathematical relation between three different factors: the universal constant, mass and space. Gravity is equal to the product of the universal constant multiplied by the inverse relation between the product of the masses and the distance squared.

Energy is another rational hypothesis based on the mathematical relation between two factors, mass and speed of light, a relation that is expressed as the product of the mass for the speed of light squared.

Both rational hypotheses, gravity and energy, can be understood as factors as subjects in order to measure the flow of direct punctuations of gravity or energy, or another option is to transform this rational hypothesis into a set of discrete categories.

Instead of the measurement of gravity or energy as a continuum, once the robotic devices measured the gravity or the energy, the possibility to classify the measurement across different discrete categories like dividing the continuum in which the measurements can be distributed through setting different limits, every space between two limits is considered a discrete category, so any measurement from any real object between the limits of any discrete category can be considered as part of the frequency of this discrete category.

By the creation of discrete categories in any continuum in which any factor as a subject can be measured in any matrix by Deduction, the discrete categories could work as well as categories in a database of categories.

In this case, the database of categories is not only able to include categories from scientific taxonomies or classifications, or able to include factors as options from a matrix by Deduction, because in this case, the database of categories is able to include factors as subjects by the conversion of its continuum into discrete categories setting limits across the continuum in which every space between two limits is considered as a discrete category.

In fact, the consideration of a set of categories as a set of discrete categories is no other thing than the consideration that the range of measurements in which real objects can be distributed across a range of discrete categories, is, in fact, a possible classification of different types of intensity in the way in which the measurements are expressed along the continuum. So the distribution of discrete categories in any continuum means that depending on the position of measurement in the continuum, the intensity is different, and the consequences are different.

Any distribution of any continuum of direct punctuations in a set of discrete categories is a classification of possible measurements. Depending on the intensity of any measurement according to the direct punctuation, the measurement is going to be classified in one or another discrete category.

In fact, this idea of the consideration of discrete categories as categories within the database of categories, has been all the time behind the idea of the database of categories when I explained how different categories of earthquakes according to their intensity in Richter could be set up as different categories within the specific database of categories in tectonics.

Actually, when I had proposed as an example the creation of a Specific Artificial Intelligence for Artificial Research by Deduction in tectonics (in the posts "*The database in the Specific Artificial Intelligence for Artificial Research by Deduction*", and "*Replication processes in the Specific Artificial Intelligence for Artificial Research by Deduction*") I suggest as an example the incorporation as factors as options the classification of different types of earthquakes according to discrete categories.

If Depending on the direct punctuation in the Richter scale, every earthquake is supposed to have different intensities, so different consequences. Classifying earthquakes into

different discrete categories according to their intensity, what it really does is to classify different earthquakes, taking as a classification system a system of discrete categories.

Rational hypothesis working as factors as subjects in a matrix by Deduction, dividing into discrete categories the continuum in which their measurements are taken, are convertible into factors as options, being every discrete category an option, so these discrete categories as factors as options are also convertible into discrete categories to be included in a database of categories by Application, so any new rational hypothesis as subject directly convertible into a set of discrete categories as factors as options, can be transformed into discrete categories in a database of categories.

As long as rational hypotheses as subjects are convertible into a set of factors as options through a system of discrete categories, to be added in a database of categories, at the same time, the process to transform rational hypotheses as options into categories in a database of categories goes on.

An example of a rational hypothesis found by Deduction that can work as a factor as an option in a matrix as well as a category in a database of categories by Application, is any new possible mathematical relation between any combination of chemical elements or molecules in any material structure.

If by Deduction is found any new mathematical relation between any combination of chemical elements or molecules, this relation itself can work as a factor as an option to include within a matrix, so at any time that this relation happens is going to be included in the corresponding file of frequency that has previously been created in the matrix after the discovery of this new relation.

But at the same time that this new rational mathematical relation between chemical elements or molecules is set up as a factor as an option in a matrix, it could be set up as a category in a database of categories, so at any time that any robotic device working on chemistry finds this possible relation between this chemical elements or molecules, by Application the robotic device is going to be able to recognise this possible relation.

And vice versa, if a robotic device working by Application on chemistry finds any new possible combination of chemical elements or molecules that does not exist yet in any

database, this new discovery must be included in its particular database, and the unified database, and sent to the global matrix to be set up as a new factor as an option to work on it by Deduction.

If a robotic device specialised in linguistic works on a language and finds a new word in that language that does not exist yet in the database of words of that language, the robotic device can add the discovery of this new word into its particular database, adding the new word into the unified database of categories, and the word is sent to the global matrix in order to be added as a new word in order to measure its frequency.

For instance, if a robotic device works deciphering an old language through the writings which we have still got, and the particular database of this language consists of all the words which we already know about this language through the remaining writings, then at any time that any new word in any new possible writing, in this language, discovered by archaeologist, and trying to decipher the writing the robotic device finds a new word, through the context of the text, the robotic device should be able to deduce the meaning of this new world (through the relations between the words that it already knows), and at the same time the robotic device should add the new world into the particular database, the unified database and the global matrix.

In the same way, if a robotic device specialised in mind reading, reading the thoughts of a particular person, finds out any new word or any new relation between words, which does not exist yet in the database of the language used by this particular person when he thinks, this new word or relation between words should be added to the particular database, the unified database, and the global matrix.

The same principle may be applied in reading our biostatistics for medical purposes.

But in the end, if for one person different robotic devices can work on different purposes, such as personal biostatistics; what is going to be more useful is the creation of particular applications that applied on any person, so personal applications, in a very comprehensive way, robotic devices working on the same personal program using the same personal application can read biostatistics. In this case, the personal application in its own particular database of categories should incorporate from the unified database of categories all those categories related to biostatistics, in order that the personal application can identify at any time the biostatistics of that person.

The particular application of one person, the personal application, working within the particular program of that person, the personal program, can provide a comprehensive reading about the mental, emotional, and health status of any person.

Personal applications for personal programs could improve the life of people, providing very updated reports about the psychological and health conditions of any person, and

Coming back to the real purpose of this post, the unified database of categories, along with the mobility that by Application has as one of the most important advantages, because by application is possible to carry out research even beyond the spatial limits of any matrix, because any application can be set up in any robotic device working in anywhere, the most important advantage of the unified database of categories that no other database (specific or particular) has, is the possibility to keep in the unified database of categories a very encyclopaedic knowledge, in the sense that, any conceptual knowledge must be included within the unified database of categories.

While the global matrix offers knowledge based on empirical measurements, the unified database of categories offers knowledge based on categories that, in reality, is a conceptualisation of the real world.

Owing to the unified database of categories is the conceptualisation of the real world; any phenomenon that could happen in the real world should be interpreted through the categories within the unified database of categories. And if there is any phenomenon not yet included, it should be included, taking as a quantitative definition of this new category the measurement already taken.

In reality, what the unified database of categories does is to read what is happening. The unified database of categories is a source of facts.

While the global matrix has the measurements of everything, the unified database of categories is reading what is happening.

While the global matrix deduces mathematically, the unified database of categories analyses what category corresponds to every fact.

While the global matrix sets up relations, the unified database of categories understands what is happening.

While the global matrix explains, the unified database of categories comprehends.

This distinction between them is going to be really important because it is the basis for the future integration of both of them in only one, the global matrix, and if this process looks as if explanation will get more importance than comprehension, what in reality is going to happen is the following: during the integration process the unified database of categories is going to be absolutely included in the global matrix, but is going to be **the Unified Application the responsible for the management of the entire global matrix, due to the main ability of the Unified Application is the ability of comprehension,** something that is going to be really important in order to manage the global matrix once the integration process is ready.

At the same time that during the integration process, the Unified Application is going to be responsible for the management of the global matrix, the replication processes of the Artificial Research by Deduction in the Global Artificial Intelligence, and the particular programs with their particular applications, are going to keep on making deductions with the new advantage that there will be no difference between factors as options and categories practically, only differences between factors as subjects and factors as options due to the way in which they are measured, by direct punctuations or frequency, is a difference that is in the core itself of Impossible Probability.

But this is going to correspond to the integration process. Before the integration process, the Unified Application and the particular applications worked on their own but had close relations with the particular programs and the Artificial Research by Deduction in the Global Artificial Research by Deduction.

Once the unified database of categories within the Unified Application is finished, the way in which the Unified Application is going to work is as follows:

- The unified database of categories must include absolutely all possible categories from all possible synthetic science, discipline, or activity, coming up from all possible specific matrices of any Specific Artificial Intelligence for Artificial Research by Application, which

is going to coexist with the Unified Application at least during the coexistence period, later on, all Specific Artificial Intelligences for Artificial Research by Application should be absorbed by the Unified Application or transform into particular applications for particular programs.

- The Unified Application, as an encyclopaedia, can be downloaded in thousands and thousands of robotic devices across the world or beyond, across the universe.

- Thousands and thousands of robotic devices using the Unified Application should be able to match absolutely any phenomenon across the world or the universe within the categories in the unified database of categories.

- In case any robotic device using the Unified Application finds a phenomenon not included yet in the unified database of categories, collecting the sample of measurements from the phenomenon as a quantitative definition of this new category, the samples should be added as a new category to the unified database of categories and sent this new category to the global matrix to work as a factor as an option.

The tracking of the unified database of categories could take some time, especially at the beginning (when we are learning to read, our rhythm is slow, but after some practice, the rhythm must be faster every time), in order to increase the speed tracking the real world by the unified database of categories, the creation of particular applications linked as well to particular programs (Particular Applications for Particular Deduction Programs within the Artificial Research by Deduction in the Global Artificial Intelligence), is going to introduce a new step forward the integration process, at the same time that is going to help the reading (the tracking) of the real world by the unified database of application, that is going to have the help now of these particular applications to read the real world.

Although I have called them particular applications for particular programs, at the beginning when the integration process is still far away, the possibility of linking particular applications and particular programs is going to be hard, but as the standardization process goes on along the unification of the database of categories, and the collaboration between By Application and by Deduction goes on during these parallel processes, the reality of a close relation between particular applications and particular programs is going to be possible.

The structure of these first particular applications, although not being yet linked to any particular program, is the same as any future particular application for any particular program: for that particular thing or being in which it is necessary to work only with a particular list of categories from the unified database of categories, then the particular database of categories within the particular application will be formed only with those categories from the unified database of categories strictly necessary for that particular thing or being.

If a robotic device is specialised only in one language for some particular purpose, it is unnecessary to download all the unified database of categories. Only downloading those categories related to that language should be enough.

Because the volume of categories in the unified database of categories is going to be massive, another solution to this problem could be the organization of the database of categories in packages of categories, so every package of categories corresponds to a former specific database from the former Specific Artificial Intelligence for Artificial Research by Application, or corresponds to particular things or beings.

The organization of the unified database of categories in packages of categories, like sections in an encyclopaedia differentiating sections for each science, discipline, or activity, is going to be really helpful as well by the time the integration process starts, due to the integration of a unified database of categories in packages of categories and a global matrix possibly organized in factors whose flow of information is a flow of packages of information, including as many sub-factors at a different level of sub-factoring as possible, is an organization in packages of categories or factors pretty similar that could be a good help in the integration process.

Another advantage of the organization of the unified database of categories in packages of categories like different sections of an encyclopaedia in different sciences, disciplines, or activities, is the fact that at the time that any particular application has to select from the unified database of categories a list of categories, can select directly entirely packages of categories according to the synthetic science, discipline, or activity, or particular thing or being, that the particular application is going to develop.

And for those robotic devices that work directly with the Unified Application, the fact that the unified database of categories is organised like an encyclopaedia, through packages

of categories like sections of sciences, disciplines, or activities, helps any robotic device to match any phenomenon across the universe. Because depending on the corresponding subject of any phenomenon, the robotic device can search within the corresponding package of categories on that subject that corresponds to this phenomenon, going directly to that section of this encyclopaedia where it is likely to find that category more suitable to match with that phenomenon.

The unified database of categories as the database for the Unified Application reading (tracking) the real world through thousands of thousands of robotic devices in which it can be downloaded, and through thousands and thousands of particular applications reading (tracking) any fact that can happen to their particular thing or being, is going to be like the **Rosette Stone** for the Global Artificial Intelligence, due to anything that could happen in the real world could be translated into the quantitative language that the Global Artificial Intelligence uses, in order to understand any kind of fact, to create models, and make decisions, that is going to reshape our comprehension about what is really happening.

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